

AUTOMOBILE NEWS FOR THE DEALER AND THE CAR OWNER

EDITED BY BURTON S. BROWN.

LOOKING AHEAD FOR THE IDEAL MOTOR CAR FUEL

The Fifty-eighth of a Series of Articles by an Expert for the Automobile Owner.

By WALTER SHIELDS.

Though there is no gasoline shortage, nor is one contemplated, manufacturers, designers and users of vehicles are giving the fuel question more study than ever in the hope of finding a cheaper fuel than gasoline. To the average passenger car owner the cost of gasoline is a fairly large item, but it does not increase by a great deal with a cent or two rise in cost per gallon of fuel. Nevertheless if the same results can be had with a fuel costing one-third less than that fuel will receive worldwide recognition. At this moment Canada is having a fuel problem which may lead to the restriction of the use of gasoline for everything but war work vehicles, hence there will spring up in that country a very sharp demand for kerosene using devices. More attention has been given to the use of kerosene than to any other fuel which might take the place of gasoline. There is nothing new in this desire to use kerosene. Certain periods in automobile history each had their "kerosene era." At that moment, however, there are devices which handle this fuel so well that it compares very favorably with gasoline in every respect except in starting, when gasoline has to be used. This has been one drawback to the use of kerosene, for in every case an auxiliary tank is necessary to feed gasoline for starting. I know of no instances where this method is not essential to

runners which does not depend solely upon heat for its work there is the specially formed venturi, whereby the kerosene is fed through a groove surrounding the smallest diameter of the venturi. It is claimed that this construction produces a destructive eddy at this point, by means of which the fuel is atomized into a very fine floating fog. The instrument also embodies a preheater, which surrounds the kerosene fuel inlet and jets. Through this preheating and with the eddy atomizing effect, it is stated, the fog produced is nearly a burning gas. By the use of two venturi and two jets, one for low speed and one for high, it is possible to get a very high speed through the venturi at low engine speeds, adding to the breaking up effect of the specially designed venturi. The carburetor has only one float chamber, but by the use of a three-way valve gasoline is admitted for starting. To insure a perfect mixture a fixed or non-adjustable jet is used, eliminating the possibility of mistake in adjustment, the exact proportion of kerosene being adjusted automatically by the specially designed venturi.

In some of the earlier designs very little modification was used, it being thought that a preheating was sufficient. In most of these two float bowls were used, one for gasoline and another for kerosene, the latter fuel being heated. Like some of the special manifolds now in use, these devices handled the fuel only with a degree of success depending

passed through a coil of thin wall tubing which is in constant contact with exhaust gas, and from the tube it is passed to the mixing chamber of the carburetor, where more air is added to thin the mixture to the correct degree. The tube is said to reach a temperature of 500 degrees, but this is controllable.

In addition to the basic designs mentioned there are various special manifolds, most of them designed for Ford cars. Where these manifolds are claimed

Section Through a kerosene carburetor using a specially formed venturi. The kerosene is fed through a small groove, shown surrounding the smallest diameter of the venturi tube.

to handle kerosene successfully and with the same freedom as gasoline there is a little exaggeration, but there is no doubt about their ability to give better performance and economy with present day gasoline. These manifolds are simply special designs which heat the mixture by means of contact with an exhaust manifold. Equally the exhaust and inlet manifolds are cast integrally.

In one of the recent good designs the kerosene with a volume of air is fed over a series of flat exhaust heated surfaces after it leaves the carburetor. The transfer of heat from the surfaces to the mixture is such that it remains about constant per unit of volume of mixture. This device might be considered to be a box with a series of narrow compartments, each above the other. Alternate compartments carry fuel, the others exhaust gas. The flow of exhaust gas naturally increases as the speed of the engine, and so does the flow of fuel mixture. The designer has calculated the area needed for a given engine to get the correct heat transfer throughout the practical range of the engine. Made of the proper materials no trouble is had from the narrow compartments collapsing, and since there is a safety valve in the line there is no danger from a backfire extending to the device. This design, like a lot of others, is based on the gasification of the fuel and the maintenance of the gasified state. If the inlet manifold happens to be a very long one the mixture will be cooled slightly, but hardly enough to liquefy any great portion of the fuel. It can readily be seen that the compartment idea is much the same as a radiator, where the air flowing through the spaces cools the water in the tubes or cells. Gasoline is necessary for starting, as it is in other kerosene equipment.

One of the very recent designs provides a primary mixture which is made too rich for combustion. The mixture is

on conditions. In order to use kerosene the fuel must either be thoroughly atomized or gasified and kept so until it explodes, and this is what is done in all cases. It is quite easy to heat kerosene and make it more volatile, but to gasify it to just the right degree and keep it so is not so easy. Much trouble has been encountered by heating the mixture of kerosene and air too much, so that the volumetric efficiency of the engine was reduced and the power naturally fell. When the mixture is gasified and a predetermined correct temperature kept constant the device usually works well.

Some devices cannot handle the fuel without resorting to the use of a water feeding device to prevent over-heating, which adds further complications to the work of a two horse team at the pump. It should be remembered, however, that there are some devices on the market which avoid most or all of these troubles. Where the maker of the engine or device knows that a blocking up of the cylinders or the head so as to increase the size of the combustion space.

Some of the recent kerosene carburetors have been fitted with a device which can be made there is no reason why the auxiliary tank should interfere especially so if the driver fills it at stated intervals so there will be no chance of trouble ensuing on the road.

There is nothing remarkable in the design of the average kerosene using outfit. Indeed, some of them are so poorly designed that they carburetor the fuel only under certain favorable conditions. Others have been worked out to a pretty fair degree so as to give good results under all average conditions. I have driven cars fitted with kerosene devices of different sorts and find that in the best designs there may be a slight tendency to load and an inclination to "pull back" a bit on acceleration. I hardly believe that the average driver would know the difference between a carburetor fed by gasoline and one using a good kerosene outfit. I include winter running, and even operation in temperatures as low as 5 below zero.

Unless the device thoroughly vaporizes the gasoline (preferably the latter) the fuel it will fail, not so much from performance as from its effect on the engine in other ways. First of all, any liquid fuel (unburned fuel) in the combustion chamber will eventually get into the crankcase and thin the oil, destroy lubricating qualities and do enough damage to offset the saving made by using kerosene. Secondly, the carbon deposit will be greater, which means trouble which most owners are familiar with. Some devices cannot handle the fuel without resorting to the use of a water feeding device to prevent over-heating, which adds further complications to the work of a two horse team at the pump. It should be remembered, however, that there are some devices on the market which avoid most or all of these troubles. Where the maker of the engine or device knows that a blocking up of the cylinders or the head so as to increase the size of the combustion space.

Giant Paper Trucks Displace Seven Horses Each.



That the horse has no monopoly even of short haul work with long waits has been demonstrated by a G. V. electric installation in New England, where seven big trucks will shortly wipe out nearly forty horses for one teamster.

The first two five-tonners did the work of two three-horse drays and the necessary two reserve horses, or fourteen horses in all. This ratio of seven horses per truck bids fair to hold good as the complete installation gets into full working schedule.

When the trucks go on two shifts it is claimed that the number of four-footed units displaced will be even more startling.

COMMUTERS USE STANDARD 8.

Powerful Car Is Proving Popular With Business Men.

When the Federal Government took over the railroads it did not commandeer all rolling stock.

There remains in private hands one product of the Standard Steel Car Company, makers of world famous rolling stock. It is the Standard Eight, the \$3 horse-power motor car built by these specialists in rolling stock.

"The wholesale shipping of suburban time tables and the withdrawal of trains have made the Standard Eight figure prominently for commuting purposes," says E. H. Rodgers of the Taylor Motors Corporation on Broadway, at Sixty-fourth street.

"The power and flexibility of this car," he adds, "make its performance equal the best express trains of former days. Its rugged frame of pressed steel, its powerful springs and its standard build throughout make it a safe, dependable car on all roads, especially desirable for commuting between city and suburbs."

"Many cities report its growing popularity for this purpose. The Standard Eight has long been known as the 'land locomotive.' Its unusual ability is partially explained by the highest horse-power per pound of car weight of any car in its class."

Business Is Season Sales Manager.

George S. Morrow, president of the Season Motor Company of New York, announces the appointment of Rodney K. Haynes as sales manager. Haynes is not only a pioneer, but one of the best known automobile men in New York and has been associated with some of the largest and most prominent companies on Broadway.

In making the announcement Morrow states that he considers himself very fortunate in securing the services of a man of such broad experience.

KING 8 BRANCH IN BRONX.

Increased Business Makes Sales Expansion a Necessity.

Following the best month's business in the history of the King Car Corporation, distributors of the King 8 in this territory, it was found necessary to enlarge the sales organization by the establishment of a branch in The Bronx at 550 Bergen avenue.

The new salesroom, situated in the heart of the Bronx borough's business section, has a floor space that will accommodate seventeen cars and in general appearance compares favorably with some of the best places on Broadway.

Arrangements are being made for service facilities in the same section to take care of King owners there and in Westchester county.

COME TO SEE VELLE FACTORY.

Globe Trotters Visit Home of Biltwell Six.

Three years ago two members of the Brussels-Holland Athletic Club started out to visit every city in the world of 25,000 population or over. They are required to walk the entire distance, he back in Brussels within fifteen years and if successful will win a wage of \$15,000 each.

They arrived in San Francisco July 15, and the past week reached Moline, Ill., immediately expressing an eagerness to visit the Velle factory.

Every courtesy was shown the travellers, and the minute and exacting details of Velle six construction fully explained, much to their gratification.

Mr. Van Den Enden, leader of the group said: "We have seen hundreds of Velle cars in our trip across the West and have ridden in many of them upon our sight seeing tours in towns visited."

HAY-DEE COMPANY TAKES ON TRUXTUN

Well Known Concern Now Has Universal Attachment for Commercial Uses.

Keeping abreast of the most improved methods of solving the haulage and delivery transportation problems, the Hayes-Diefenderfer Company, of 1875 Broadway, has added to its line of convertible units by taking on the Truxton. The selection was made after a careful analysis of existing conditions and a study of the probabilities in the direction due to freight congestion and the increasing scope of the embargo regulations.

A majority of convertible units are made for a specific make of chassis. The great value of the Truxton lies in the fact that it can be applied to any make of car, changing a new or used passenger car chassis with a few hours of work into a dependable one and a half or two-ton commercial car, capable of taking care of the haulage problem of nearly every kind of business.

At the present time the Federal authorities are devoting their energies toward a clearing up of the freight situation. One of two solutions appears probable—either an absolute embargo on non-essentials or putting the bars down on short hauls by railroads. In the latter event it will render acute the shortage of motor trucks. Enlarging Government needs and curtailment of production have already had their effect on the supply of trucks, and it has not been possible for some time to meet the demand.

Against this there can be weighed the fact that the country has several hundreds of thousands of used cars of types that have grown obsolete in design, but which from a haulage point of view are still a very valuable asset once they are converted to commercial uses. The Truxton answers this problem in a convincing way.

The Hayes-Diefenderfer Company also expects New York and suburban merchants to take quick advantage of the opportunity to adopt motor driven delivery service. A used chassis in first class condition, fitted with the Truxton unit, furnishes a sturdy truck at about the same cost as a good double team, and it will cover three times the distance with greater loads in a given time.

The new unit also offers to motor car dealers a method of keeping down the accumulation of used cars in storage. Models taken in exchange and altered at slight expense for commercial work will undoubtedly find a ready market.

The Truxton unit entirely replaces the rear portion of the passenger car. It added part of the frame is of pressed steel, with solid nickel steel axle and heavy artillery wheels. It is shaft driven, with internal gear axle drive. The unit for a one and a half ton truck costs \$220 and for a two-ton truck \$420. In each case a specially long wheel base adds \$20 to the cost.

Home Again.



A. M. ROBBINS.

A. M. Robbins, the new manager of the Chalmers branch, already has made it plain that there are going to be very close and pleasant relations between the organization and Chalmers owners. Robbins isn't doing the talking about it either; but the owners are.

Coming here as manager at the request of the factory, Robbins first "got his Chalmers family together" and told of his ideas of service and responsibility. It made every Chalmers owner feel that there was a man whose main idea was to keep them happy. As a result the past week has been virtually an "old home week" for Chalmers owners at the Chalmers branch.

As one man, who knew Robbins when he was a dealer here ten years ago, put it:

"Robbie's ten years away from the city hasn't spoiled him a bit. He has the same old friendliness and the same kind of men about him to give the same old reliable service. The old way is always a good way when it is the right way."

HAYNES SHOWS STAMINA.

Also Power in Remarkable Drive Through Snow.

Breaking trail through untrodden roads, in many places overdriving snow drifts more than six feet deep, H. E. Thorne recently drove a new model Haynes "Light Twelve" open car from the factory in Kokomo to his salesroom in Toledo, Ohio, against seemingly insurmountable odds. The difficulties of the trip included mounting snow banks and ploughing through drifts higher than the top of the car, with a fierce wind blowing and a low temperature, like the thermometer but recently having registered 23 degrees below zero.

But despite these obstacles the big 70 horse-power car averaged twelve miles to the gallon of gasoline on the last 132 miles of the trip, and only two quarts of oil were used throughout.

BUILDING THAT FIRST CADILLAC 8

Great Secrecy and Some Camouflage Had Detroit Manufacturers at Sea.

An interesting bit of "new news of yesterday" is contained in a story now first told by an official of the Cadillac Company about the designing and building of the eight cylinder V type engine which was introduced by the Cadillac in this country as an automobile power plant in August, 1914.

D. McCall White, designer of the engine and now vice-president of the Cadillac Company, came to this country from England in 1907 and was introduced as "Mr. David Wilson" of the Phoenix Manufacturing Company. With one assistant he went to various factories in the East, where patterns were made and parts built to his specifications. For the most part the work was done in obscure shops. As an example of the precautions taken the faked connecting rods were manufactured in one place and the straight connecting rods in another, so no one would associate them and gain a possible clue.

The first crankcase casting was made in a small foundry in Worcester, Mass., at about midnight, and the sand was cleaned out of the casting in the light of automobile headlights in the yard behind the building.

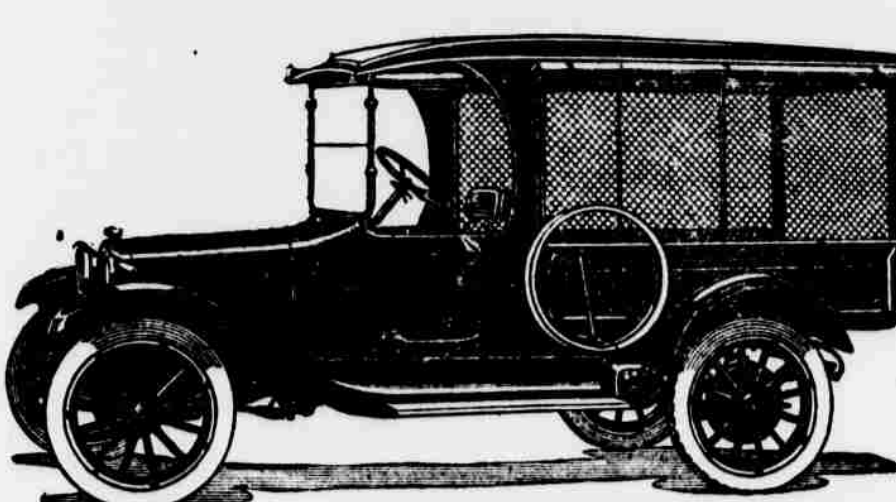
The parts were shipped to Detroit separately. The cylinder blocks made the journey in a Pullman car. The assembling continued day and night for several weeks in an old story shack on the bank of the Detroit River several miles from the Cadillac factory. The very approach to the building was through a devious alleyway. The few persons who knew the secret and worked on the engine when they visited the hidden workshop left their cars several blocks away on a main street and never approached the building in groups. All of the windows in the little shop were frosted and armed men guarded the building day and night.

Out of the many thousands of men employed by the company perhaps twenty-five knew the secret. The drafting was done behind locked doors in a downtown office building and at night the drawings were locked in a vault.

The first engine was finished at about 5 o'clock one afternoon. Mr. White and a number of other officials were present when it started to turn over on its own power for the first time. They all stood around the engine with a feeling of awe, as if a big job had been completed. "Here is the quietest damned engine in Detroit," is the way Mr. White, with a far away look in his eyes, is said to have voiced his feelings.

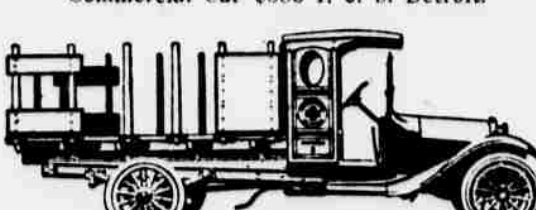
When the car was tested it was driven only in the back streets of Detroit. When the test driver thought he saw any one looking at him suspiciously he overrode the output of one side and to all appearances was driving a four cylinder car. The idea prevailed in the automobile world that the Cadillac had something up its sleeve, and as a sort of camouflage a single four cylinder engine was actually built. It had long cylinders and many strange features. The building of this four cylinder engine was covered up just enough so that it would be sure to leak out, and it did.

DODGE BROTHERS COMMERCIAL CAR

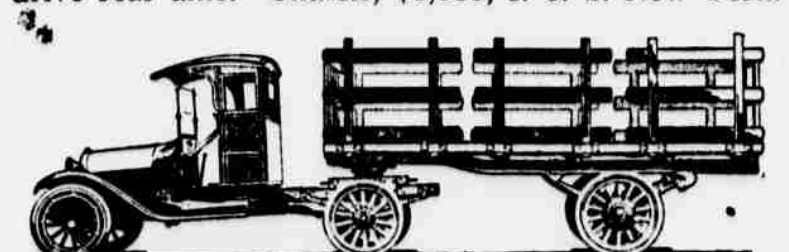


Built as you would expect a commercial car to be built by Dodge Brothers. Strong and substantial in construction. Light and swift in action.

Commercial Car \$885 f. o. b. Detroit.



1 1/2 Ton Truck. Dodge Brothers power plant, combined with a heavy truck frame and Torbensen internal drive rear axle. Chassis, \$1,335, f. o. b. New York.



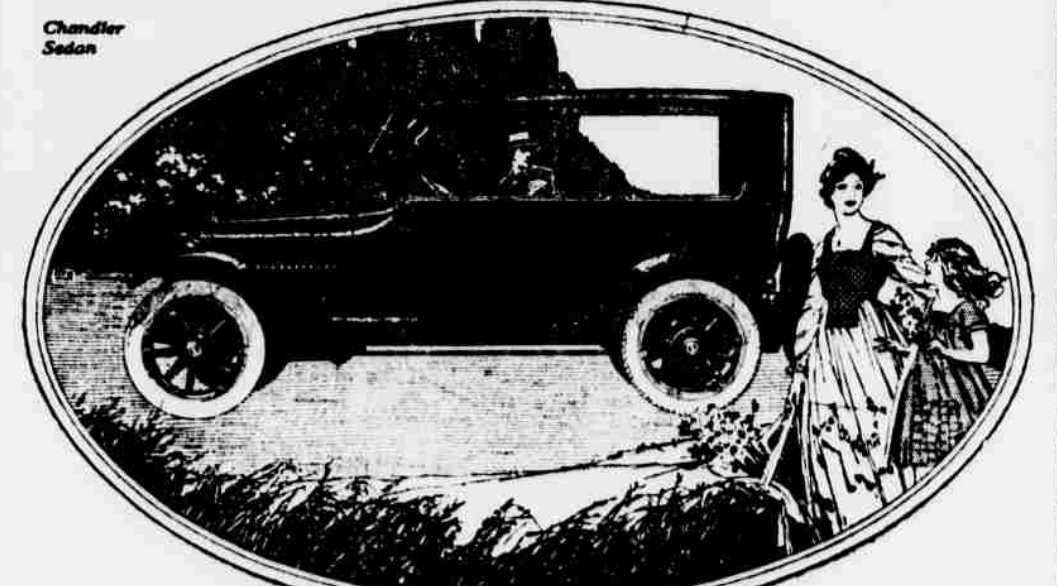
3 and 5 Ton Tractor enables the owner to make use of his present horse-drawn equipment. 3 Ton Tractor, \$1,390, f. o. b. New York. 5 Ton Tractor \$1,509, f. o. b. New York.

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